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| 10/590,041 | 08/18/2006 | Satoshi Seo | 0553-0508 | 4399 |
| 24628 | 7590 | 04/11/2011 | EXAMINER | |
| Husch Blackwell LLP | | | JACKSON JR, JEROME | |
| Husch Blackwell Sanders LLP Welsh & Katz | | | ART UNIT | |
| 120 S RIVERSIDE PLAZA | | | PAPER NUMBER | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/590,041

Applicant(s)

SEO ET AL.

Examiner

Jerome Jackson Jr.

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 17-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 17-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-040)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 17-35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kido 2003/0189401, of record.

Kido discloses a "mixed layer" charge generation layer between an electrode and a light emitting layer. See, for example, figure 41 where mixed layer 4-1 is between electrode 2 and light emitting layers 3-2. The device of Kido may also comprise a stack of multiple light emission layers and charge generation layers between electrodes. See for example figure 8. Accordingly, claim 1 is anticipated or at least obvious over Kido.

Regarding claim 17, note the mixed layer is between the anode and light emitting layers for multiple light emitting units in figure 8, or from the suggested combination of figures 8 and 41. Note "anode" is also a label for an electrode to which the most negative voltage may be applied and would not distinguish over either electrode of Kido, as any voltage may be applied to either electrode. The intended use of the claimed structure does not distinguish over Kido operated in the same manner.

Claim 18 is rejected because applicant has defined a mixed layer as a single layer or multiple layers of inorganic and organic layers: "It is to be noted that the mixed layer includes a layer in which an organic compound and an inorganic compound are mixed or a layer in which each of an organic compound and an inorganic compound are thinly formed."

Kido discloses thin layers of organic and inorganic/organic layers adjacent electrodes where one of the layers is in direct contact with an electrode. Accordingly, claim 18 does not distinguish over Kido. Claim 19 is likewise rejected.

Claims 20-35 are rejected because Kido discloses the quarter wavelength structure claimed, and metal oxide inorganic material. Additionally, Kido discloses multiple layers producing different colors or the same colors, and it would have been obvious to design for colors enabling white light emission or to practice multiple layers of the same wavelength emission to amplify a desired color emission. Such is fundamentally obvious in the light emission art.

Applicant's arguments filed 1/25/11 have been fully considered but they are not persuasive. Arguments regarding each of the light emitting units comprising a mixed layer are unconvincing because Kido also shows light emitting units comprising a mixed layer (charge generation layer). Arguments regarding direct contact are also unconvincing because there are mixed layers (multiple layers of organic/organic, etc.) directly contacting electrodes. Applicant's definition of "mixed layer" in the specification is broad and undistinguishing over Kido.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerome Jackson Jr./
Primary Examiner, Art Unit 2815

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